7-4

**Consider the displacement of ,u(r,θ,t) , a “pie-shaped” membrane of radius a and angle π/3 that satisfies:**

**utt = c2∇2u**

**Assume that λ>0. Determine the natural frequencies of oscillation if the boundary conditions are:**

**Problem a.**

1. **u(r, 0, t) = 0, u(r, π/3, t) = 0, ur(a, θ, t) = 0**

**problem b.**

1. **u(r, 0, t) = 0, u(r, π/3, t) = 0, u(a, θ, t) = 0**